

Table of Contents

Overview

| | |
|---------------------------------|------|
| Introduction | 1-1 |
| 289H LSS Overview | 1-2 |
| 289H LSS Components..... | 1-5 |
| Backplane Panel | 1-5 |
| Controller Card | 1-7 |
| Utility Card | 1-9 |
| Relay Cards | 1-11 |
| Card Connections..... | 1-13 |
| Connector Blocks | 1-13 |
| Dedicated Connector Block | 1-14 |
| Subscriber Connector Block..... | 1-15 |
| Auxiliary Connectors | 1-16 |
| 289H Cables | 1-16 |

Site Planning

| | |
|----------------------------------|-----|
| Introduction | 2-1 |
| Before Ordering | 2-1 |
| Before Assembly | 2-2 |
| Installation Planning Form | 2-5 |

Monitor Installation

| | |
|---------------------------------------|-----|
| Introduction | 3-1 |
| Unpacking Equipment | 3-1 |
| Installing the 289H LSS Monitor | 3-1 |
| Power Supply Hookup | 3-4 |
| Relay Card Installation | 3-6 |
| Connector Block Installation | 3-7 |

Connector Block Wiring

| | |
|---|-----|
| Introduction | 4-1 |
| Access Number Description | 4-1 |
| 289H Conversion Utility..... | 4-2 |
| Using PressureMAP's Cutover Worksheet | 4-2 |
| Sparton Cutover Worksheet | 4-3 |
| Chatlos Cutover Worksheet | 4-4 |
| Subscriber Block | 4-5 |
| Identifying and Labeling Equipment | 4-5 |
| Wiring and Cabling Requirements | 4-6 |
| Using the Auxiliary Connectors | 4-8 |

Wiring Procedures 4-9
 Wiring Dedicated Devices to Subscriber Blocks 4-11
 Connecting a 289H LSS Monitor to a Sparton Dedicated Block 4-11
 Setting Up the SPDR Relay Card 4-11
 Using Sparton Adapter Cabling..... 4-13
 Cable Installation Procedures 4-14
 Dedicated Block 4-15
 Wiring and Cabling Requirements 4-16
 Wiring Procedures 4-18
 System Calibration 4-19

Start Up & Test Procedures

Introduction 5-1
 289H Start Up Procedures 5-1
 System Check Procedures..... 5-1
 Replacing a Card 5-3
 Using the Subscribe Block Auxiliary Jumpers 5-5
 Testing and Replacing a Blown Fuse 5-7
 Setting Up the 289H LAN Controller Card 5-9
 Configuring the LAN Controller 5-10
 PressureMAP Data Entry Requirements..... 5-14
 Troubleshooting..... 5-15
 Network Information for LAN Controller Operation 5-16
 Network Configuration Worksheet 5-17

Technical Notes

Introduction 6-1
 289H Cutover Procedures 6-1
 PressureMAP Forms:
 PressureMAP Device Types 6-4
 289H Resistive Transducer Types 6-5
 289H Loop Current Transducer Types 6-6
 Understanding How Contactors Work with PressureMAP and the 289H LSS..... 6-7
 Contactor Wiring and PressureMAP..... 6-7
 Binary Contactors 6-9
 Additional PressureMAP Contactor Readings 6-10

Appendix 1—Equipment Ordering Information

Introduction A1-1
 Product Descriptions A1-1
 Office Monitors..... A1-2
 Monitor Specifications
 289H LSS (Full Size Chassis)..... A1-6
 289H-M LSS (Mini Chassis)..... A1-7
 uM260 Micro Monitor A1-9
 Ordering Options / Card Compatibility
 289H LSS..... A1-10
 289H-M LSS..... A1-11

| | |
|--|-------|
| 289H LSS Components and Connector Blocks | A1-12 |
| 289H LSS Connector Cables | A1-20 |
| Miscellaneous 289H LSS Accessories..... | A1-23 |

Appendix 2–Troubleshooting

| | |
|--------------------------------|-------|
| Introduction | A2-1 |
| Troubleshooting | A2-1 |
| Possible Error Conditions..... | A2-1 |
| Diagnostic Testing | A2-5 |
| 289H LSS Error Messages | A2-10 |

Appendix 3–Reading Messages

| | |
|---|------|
| Introduction..... | A3-1 |
| Verbose Readings for Resistive and Current Loop Devices | A3-1 |
| Status Column Explanation | A3-2 |

Appendix 4–289H Alert Status Codes

| | |
|--|------|
| Introduction..... | A4-1 |
| Status Codes for the 289H Alert Modem | A4-1 |
| 289H Alert Modem Errors | A4-2 |
| 289H Alert Protocol Errors | A4-3 |
| State of Communication Protocol Values | A4-4 |
| STATE Descriptions for PressureMAP..... | A4-5 |
| STATE Descriptions for the 289H LSS..... | A4-5 |

Appendix 5–289H Diagnostics

| | |
|---|-------|
| Introduction..... | A5-1 |
| Functional Overview..... | A5-1 |
| Types of Calls Placed Through PressureMAP | A5-2 |
| Line Testing | A5-2 |
| 289H Board Numbering Conventions..... | A5-2 |
| Procedures for the 289H LSS Diagnostics Test..... | A5-3 |
| The 289H LSS Diagnostics Tests..... | A5-5 |
| System Configuration | A5-6 |
| Calibration Test..... | A5-8 |
| Realtime Reading Test | A5-9 |
| Resistive Device Output..... | A5-10 |
| Current Loop Device Output..... | A5-11 |
| Specific Device Information | A5-12 |
| Capacitance Test..... | A5-12 |
| Ping Relays Test | A5-13 |
| Cold Reset | A5-14 |
| Leakage Test | A5-14 |
| AC Test | A5-15 |
| DC Test | A5-16 |
| Dialout Phone Number Information..... | A5-17 |
| Device Alert Information | A5-19 |

Tone Settings A5-20
 Get Tone Settings..... A5-21
 Set Tone Default A5-21
 Route Tone..... A5-22
Transducer Conversion Charts A5-23

Index..... I-1